IN THE CLAIMS:

Applicant has requested amendment to claims 15, 19, 23, 27, 30, 33 and 36, a copy of each of these claims being presented herein. A marked-up version of these claims entitled "Version With Markings Showing Changes Made" indicating insertions and deletions is included as an attachment to this amendment.

Please amend claims 15, 19, 23, 27, 30, 33 and 36 as follows:

15. (Five Times Amended) Digital signal conversion apparatus for converting a first digital image signal to a second digital image signal having a quality higher than that of the first digital image signal, comprising:

a memory for storing class data for respective classes at addresses corresponding to said respective classes, said class data obtained by learning with at least a training digital image signal having a quality higher than that of the first digital image signal;

means for receiving said first digital image signal including pixel data representing pixel values;

means for clustering a plurality of pixel data of said first digital image signal adjacent to a pixel data of said second digital image signal to produce a class;

means for retrieving said class data from one of said addresses of said memory corresponding to said class of said first digital image signal; and

means for generating all of pixel data, representing pixel values of said second digital image signal, in the same manner in accordance with a common algorithm based upon at least said retrieved class data.

19. (Five Times Amended) A digital signal data conversion method for converting a first digital image signal to a second digital image signal having a high resolution component, comprising the steps of:

storing class data for respective classes at addresses in a memory corresponding to said

2

respective classes, said class data obtained by learning with at least a training digital

image signal having said high resolution component;

receiving said first digital image signal including pixel data representing pixel values;

clustering a plurality of pixel data of said first digital image signal adjacent to a pixel data of said

second digital image signal to produce a class;

retrieving said class data from one of said addresses of said memory corresponding to said class

of said first digital video signal; and

generating all of pixel data, representing pixel values of said second digital image signal, in the

same manner in accordance with a common algorithm based upon at least said retrieved

class data.

23. (Five Times Amended) Digital signal conversion apparatus for converting a digital video

signal admitting of a first standard into a digital video signal admitting of a second standard, a

first quality of said digital video signal admitting of said first standard being lower than a second

quality of said digital video signal admitting of said second standard, comprising:

a memory for storing class data for respective classes at addresses corresponding to said

respective classes, said class data obtained by learning with at least a training digital

video signal admitting of said second standard having said second quality;

means for receiving an input digital video signal including pixel data and admitting of said first

standard;

means for clustering a plurality of pixel data of said input digital video signal adjacent to a pixel

data of a second digital video signal to produce a class;

means for retrieving said class data from one of said addresses of said memory corresponding to

said class of said input digital video signal admitting of said first standard; and

means for generating all of pixel data, representing pixel values of said digital video signal

F3

admitting of said second standard, in the same manner in accordance with a common

algorithm based upon at least said class data which has been retrieved.

27. (Five Times Amended) Digital signal conversion apparatus for converting a standard

definition digital video signal to a high definition digital video signal, comprising:

a memory for storing class data for respective classes at addresses corresponding to said

respective classes, said class data obtained by learning with at least a training high

definition video signal;

means for receiving a standard definition digital video signal having pixel data representing pixel

F4

values;

means for clustering a plurality of pixel data of said standard definition digital video signal

adjacent to a pixel data of a second digital video signal to produce a class;

means for retrieving said class data from one of said addresses of said memory corresponding to

said class of said standard definition digital video signal; and

means for generating all of pixel data, representing pixel values of a high definition digital video

signal, in the same manner in accordance with a common algorithm based upon at least

said retrieved class data.

30. (Five Times Amended) A digital signal conversion method, comprising the steps of:

storing class data for respective classes at addresses in a memory corresponding to said

respective classes, said class data obtained by learning with at least a training high

F5

definition digital video signal;

receiving a standard definition digital video signal having pixel data representing pixel values;

clustering a plurality of pixel data of said standard definition digital video signal adjacent to a

pixel data of a second digital video signal to produce a class;

retrieving said stored class data from one of said addresses corresponding to said class of said

4

standard definition digital video signal; and

generating all of pixel data, representing pixel values of a second output digital video signal, in

the same manner in accordance with a common algorithm based upon at least said

retrieved class data.

33. (Five Times Amended) Digital data conversion apparatus for converting a first digital image

signal to a second digital image signal having a high resolution component, comprising:

a memory for storing class data for respective classes at addresses corresponding to said

respective classes, said class data obtained by learning with at least a training digital image data

having said high resolution component;

means for receiving said first digital image signal including pixel data representing pixel

values;

means for clustering a plurality of pixel data of said first digital image signal adjacent to a

plurality of pixel data of said second digital image signal to produce a class, said class being used

to retrieve a class data to generate a plurality of pixel data representing pixel values of a second

digital image signal;

means for retrieving said class data from addresses of said memory corresponding to said

class of said first digital image signal; and

means for generating all of said pixel data, representing pixel values of said second digital

image signal, in the same manner in accordance with a common algorithm based upon at least

said retrieved class data.

36. (Five Times Amended) Digital data conversion method for converting a first digital image

signal to a second digital image signal having a high resolution component, comprising the steps

of:

storing class data for respective classes at addresses in a memory corresponding to said

respective classes, said class data obtained by learning with at least a training digital image data having said high resolution component;

receiving said first digital image signal including pixel data representing pixel values;

clustering a plurality of pixel data of said first digital image signal adjacent to a plurality of pixel data of said second digital image signal to produce a class, said class being used to retrieve a class data to generate a plurality of pixel data representing pixel values of a second digital image signal;

retrieving said class data from addresses of said memory corresponding to said class of said first digital image signal; and

generating all of said pixel data, representing pixel values of said second digital image signal, in the same manner in accordance with a common algorithm based upon said retrieved class data.